IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:

Jean Michel MARTIN et al.

Title:

LOW-FRICTION SLIDING MECHANISM, LOW-FRICTION AGENT

COMPOSITION AND METHOD OF FRICTION REDUCTION

Appl. No.:

Unassigned

Filing Date:

02/06/2006

Examiner:

Unassigned

Art Unit:

Unassigned

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.56

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

Submitted herewith on Form PTO/SB/08 is a listing of documents known to Applicants in order to comply with Applicants' duty of disclosure pursuant to 37 CFR §1.56.

A copy of each non-U.S. patent document and each non-patent document is being submitted to comply with the provisions of 37 CFR §1.97 and §1.98.

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document which is determined to be a *prima facie* art reference against the claims of the present application.

TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(b), within three (3) months of the date of entry of the national stage as set forth in 37 CFR §1.491.

RELEVANCE OF EACH DOCUMENT

. The relevance of documents A18-A22 and A38-A46 is described in the present specification.

Document A23 discloses a sliding member and its production.

Document A36 discloses an adjusting shim.

Document A37 discloses a surface protection process for internal combustion engine pistons.

Documents A28-A35 listed on the attached PTO/SB/08 were cited as being relevant during a search of the corresponding International application. A copy of the International Search Report setting forth the portion of each reference considered relevant by the examiner is attached.

Documents A13 and A21 belong to the same "patent family," whereby the English language document may assist the PTO in understanding the content of the non-English language document.

Documents A14 and A22 belong to the same "patent family," whereby the English language document may assist the PTO in understanding the content of the non-English language document.

Documents A15 and A30 belong to the same "patent family," whereby the English language document may assist the PTO in understanding the content of the non-English language document.

Documents A16 and A31 belong to the same "patent family," whereby the English language document may assist the PTO in understanding the content of the non-English language document.

Documents A17 and A34 belong to the same "patent family," whereby the English language document may assist the PTO in understanding the content of the non-English language document.

Documents A19 and A25 belong to the same "patent family," whereby the English language document may assist the PTO in understanding the content of the non-English language document.

Documents A26 and A33 belong to the same "patent family," whereby the English language document may assist the PTO in understanding the content of the non-English language document.

Documents A27 and A32 belong to the same "patent family," whereby the English language document may assist the PTO in understanding the content of the non-English language document.

Unless otherwise indicated, no English translation is readily available (not considering machine-generated translations that may be freely available online, to both the Applicant and the PTO) for each of the non-English language documents. However, a commercially available English language abstract is provided herewith, where indicated on the attached Form PTO/SB/08. Inasmuch as Applicants have endeavored to provide at least one item that complies with the requirement for a "concise explanation of relevance" for each of the non-English language documents, each of these documents has been submitted in compliance with the PTO requirements and should be considered by the Examiner (37 CFR §1.97, §1.98 and MPEP §609).

Applicants respectfully request that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

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Atty. Dkt. No. 023971-0642

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 CFR §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741.

Respectfully submitted,

Date February 6, 2006

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MODIFIED PTO/SB/08 (08-00)

Approved for use through 10/31/2002, OMB 0651-0031

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OCHAPICA CARRIE number. Substitute for form 1449B/PTO INFORMATION DISCLOSURE **Application Number** Unassigned 02/06/2006 STATEMENT BY APPLICANT Filing Date Jean Michel MARTIN **First Named Inventor** Date Submitted: February 6, 2006 **Group Art Unit** Unassigned (use as many sheets as necessary) Unassigned **Examiner Name** Attorney Docket Number 023971-0642 Sheet of | 3 1

| | | | | U.S. PATENT DOCUMENTS | 5 | |
|-----------------------|--------------------------|----------------|---|---|------------------------------|--|
| Examiner Initials* | Cita | U.S. Patent De | ocument | Name of Patentee or Applicant of Cited Document | Date of Publication of | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| | Cite No. ¹ | Number | Kind Code ² (if known) | | Cited Document MM-DD-YYYY | |
| | A1 | 5,843,571 | | SHO | 12-01-1998 | |
| | A2 | 5,466,431 | | DORFMAN ET AL. | 11-14-1995 | |
| | A3 | 5,190,824 | | ITOH | 03-02-1993 | |
| | A4 | 4,783,368 | _ | YAMAMOTO ET AL. | 11-08-1988 | |
| | A5 | 4,755,426 | | KOKAI ET AL. | 07-05-1988 | |
| | A6 | 5,205,188 | | REPENNING ET AL. | 04-27-1993 | |
| | A7 | 5,077,990 | | PLATH | 01-07-1992 | |
| | A8 | 4,554,208 | | MACIVER ET AL. | 11-19-1985 | |
| | A9 | 6,237,441 | B1 | NISHIOKA ET AL. | 05-29-2001 | |
| | A10 | 5,249,554 | | TAMOR ET AL. | 10-05-1993 | |
| | A11 | 5,237,967 | | WILLERMET ET AL. | 08-24-1993 | |
| - | A12 | 4,974,498 | | LEMELSON | 12-04-1990 | |
| | A13 | 2004/0171500 | A1 | MORITA | 09-02-2004 | |
| | A14 | 5,906,557 | | KOBAYASHI | 05-25-1999 | |
| | A15 | 6,844,068 | B1 | MIYAKE ET AL. | 01-18-2005 | |
| | A16 | 6,333,298 | B1 | WADDOUPS ET AL. | 12-25-2001 | • |
| | A17 | 6,806,242 | B2 · | SHIRAHAMA ET AL. | 10-19-2004 | |
| | | | | | | |
| | | | | | | |

| | | • | | FC | DREIGN PATENT DOCUMEN | TS | | |
|-----------------------|--------------------------|--------|------------------|--|---|--|--|----------------|
| Examiner Initials* | Cite No. ¹ | Office | oreign Patent Do | cument Kind Code ⁵ (if known) | Name of Patentee or Applicant of Cited Documents | Date of Publication of Cited Document MM-DD-YYYY | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | Т ⁶ |
| | A18 | JP | 2000-192951 | Α | NTN TOYO BEARING CO., LTD. | 07-11-2000 | | Abst. |
| | A19 | JP | 6-200274 | Α | TONEN CORP. | 07-19-1994 | | Abst. |
| | A20 | JP | 11-181463 | Α | COSMO SOGO KENKYUSHO KK, ET AL. | 07-06-1999 | | Abst. |
| | A21 | JP | 2003-082377 | Α | NIPPON OIL CORP. | 03-19-2003 | | Abst. |
| | A22 | JP | 10-166877 | Α | FUJI HEAVY IND. LTD. | 06-23-1998 | | Abst. |
| | A23 | JP | 7-090553 | Α | SHOJIRO MIYAKE ET AL. | 04-04-1995 | | Transl. |
| | A24 | EP | 0 731 190 | B1 | GENERAL MOTORS CORP. | 05-06-1999 | | |
| 1 | A25 | EP | 0 677 570 | A1 | TONEN CORP. | 10-18-1995 | | |
| | A26 | wo | 92/02602 | A1 | EXXON CHEMICAL PATENTS INC. | 02-20-1992 | | |

| Examiner Signature | Date Considered | |
|-----------------------|--------------------|--|

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¹ Unique citation designation number. 2See attached Kinds of U.S. Patent Documents. 3Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

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| | STATEMEN | T BY APPL | ICANT | Filing Date | 02/06/2006 | | | | |
| Date Submitted: February 6, 2006 | | First Named Inventor | Jean Michel MARTIN | | | | | | |
| | Date Submitte | a: February | 6, 2006 | Group Art Unit | Unassigned | | | | |
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| Sheet | 2 | of | 3 | Attorney Docket Number | 023971-0642 | | | | |

| | 1 | | | <u></u> ` | DREIGN PATENT DOCUMEN | Date of Publication of | Pages, Columns, | T |
|-----------------------|--------------|--|-------------|-----------|---|---------------------------|---|-------|
| Examiner Initials* | Cite No.1 | Foreign Patent Document Office ³ Number ⁴ Kind Code ⁵ (if known) | | | Name of Patentee or Applicant of Cited Documents | Cited Document MM-DD-YYYY | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | Т6 |
| | A27 | wo | 93/21289 | A1 | EXXON CHEMICAL PATENTS INC. | 10-28-1993 | | |
| | A28 | JP | 2001-192864 | Α | SUMITOMO ELECTRIC INDUSTRIES | 07-17-2001 | | Abst. |
| | A29 | JP | 2001-316686 | Α | SHOJIRO MIYAKE ET AL. | 11-16-2001 | | Abst. |
| | A30 | JP | 2000-297373 | Α | SHOJIRO MIYAKE ET AL. | 10-24-2000 | | Abst. |
| | A31 | JP | 2003-505533 | Α | | 02-12-2003 | | Abst. |
| | A32 | JP | 7-508049 | Α | | 09-07-1995 | | Abst. |
| | A33 | JP | 5-509125 | Α | | 12-16-1993 | | Abst |
| | A34 | JP | 2003-238982 | Α | NIPPON OIL CORP., ET AL. | 08-27-2003 | | Abst. |
| - | A35 | JP | 2004-155891 | Α | NIPPON OIL CORP., ET AL. | 06-03-2004 | | Abst. |
| | A36 | JP | 6-294307 | Α | SUMITOMO ELECTRIC INDUSTRIES | 10-21-1994 | | Abst. |

| | | NON PATENT LITERATURE DOCUMENTS | |
|--------------------|--------------|--|----------------|
| Examiner Initials* | Cite No.1 | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ⁶ |
| H | A37 | E. Meyer-Rässler – "Neuartige Laufflächen-Schutzverfahren für Kolben von Verbrennungsmotoren," VDI – Zeitschrift Bd. 86 Nr. 15/16, April 18, 1942. | |
| | A38 | Kano et al., Proceedings of Japan Tribology Society, May 1999, pages 11 and 12. | |
| | A39 | Kano et al., Proceedings of World Tribology Congress, September 2001, page 342. | |
| | A40 | International Standard, "Petroleum products – Determination of base number – Perchloric acid potentiometric titration method," ISO 3771, 8-15-1994, pages 1-8. | |
| | A41 | "Standard Test Method for Separation of Representative Aromatics and Nonaromatics Fractions of High-Boiling Oils by Elution Chromatography," ASTM Designation: D2549-91, 1995, pages 895-900. | |
| | A42 | Japanese Industrial Standard, "High carbon chromium bearing steels," JIS G 4805, 1999, pages 1-31. | |

| | | _ |
|-----------|------------|---|
| Examiner | Date | |
| Signature | Considered | |

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¹ Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.
Skind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible.
Applicant is to place a check mark here if English language Translation is attached.

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| | STATEMEN | IT BY APPLI | ICANT | Filing Date | 02/06/2006 | | | | |
| | Date Submitte | od: Eobaroar | 6 2006 | First Named Inventor | Jean Michel MARTIN | | | | |
| | Date Submitte | eu. Pebruary | 0, 2000 | Group Art Unit | Unassigned | | | | |
| | (use as many | sheets as ne | cessary) | Examiner Name | Unassigned | | | | |
| Sheet | 3 | of | 3 | Attorney Docket Number | 023971-0642 | | | | |

| | | NON PATENT LITERATURE DOCUMENTS | |
|-----------------------|--------------------------|--|----------------|
| Examiner Initials* | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ⁶ |
| | A43 | Japanese Industrial Standard, "Chromium Molybdenum Steels," JIS G 4105, 1979, pages 1-11. | |
| | A44 | Japanese Industrial Standard, "Chromium Steels," JIS G 4104, 1979, pages 1-9. | - |
| | A45 | Japanese Industrial Standard, "Aluminium alloy castings," JIS H 5202, 1999, pages 1-17. | |
| | A46 | Japanese Industrial Standard, "Aluminium alloy die castings," JIS H 5302, 2000, pages 1-12. | |
| | | | |
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| Examiner Signature | Date Considered | |
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